Saskatchewan
Ministry of
Highways and
Infrastructure

2011 Ferry Traffic and Seasonal/Winter Roads

Annual Report

Traffic Services
Information Management Branch
Ministry Services and Standards Division

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Executive Summary

This report summarizes traffic data collected at the 12 cable-stayed ferries and one free swimming ferry barge operated by the Ministry of Highways and Infrastructure during 2011. The report provides an analysis of passenger and vehicle volumes as well as traffic composition. Information about four seasonal roads operated by the Ministry is also included.

The main findings of the 2011 report are listed below.

- Vehicle volumes decreased significantly from 2010 levels, to the lowest in at least 25 years.
- Only the Cecil and Lemsford ferries reported increases in vehicle totals in 2011 compared to 2010.
- The 2011 ferry operating season length was approximately 2.3% shorter than in 2010.
- The total amount of down time reported by all ferries was significantly higher than in 2010. Seven ferries reported over 20% downtime. The dominant cause of ferry downtime was high water levels.
- The Weldon ferry was shut down for the longest period of time because of high water conditions and a structural failure on the approach road. The failure occurred on July 11 and was repaired by August 27.
- The ferries that reported the least amount of downtime were Riverhurst, Wingard, and Lemsford.
- The 2011 Average Daily Traffic (ADT) on the whole ferry system was 0.3% lower than the 2010 ADT.
- Ferries with the largest increases in traffic volumes compared to 2010 were Lemsford at 27% and Cecil at 19%.
- Increases in ADT occurred at the Clarkboro, Cecil, Lemsford, Hague, Estuary, and Lancer ferries in 2011.
- As in previous years, the Clarkboro ferry had the highest traffic volume. The ADT in 2011 was 400 vehicles per day.
- Truck traffic percentages decreased at Clarkboro, Riverhurst, Fenton, and Lancer. All other ferries had an increase in truck traffic percentages. The highest increase occurred at the Cecil ferry, at 14.6 per cent.
- Of the seasonal roads that reported operating season lengths, the Athabasca Seasonal Road between Stony Rapids and Fond-du-Lac operated for the same length of time in 2010-11 as in 2009-10, at 68 days. The segment from Fond-du-Lac to Uranium City operated for one less week in 2010-11 than in 2009-10. The Cumberland House Winter Road operated approximately two fewer weeks in 2010-11.

1.0 Introduction

This annual report provides a summary and analysis of the traffic using the provincial ferry system in 2011. It also examines vehicle types and historic traffic for each ferry. Useful insights into the function of each ferry can be obtained by examining the distribution and composition of ferry traffic. Passenger data for twelve of the ferry sites and operational information about the four seasonal/winter roads are also included in this report.

2.0 Background

The Ministry operated twelve cable-stayed ferries and one free swimming barge ferry during 2011. Cable-stayed ferries operated on the North Saskatchewan and South Saskatchewan Rivers and on Lake Diefenbaker. The single free swimming ferry operates on Wollaston Lake to serve the community of Wollaston Lake. Other than replacing the Cumberland ferry with a bridge in 1996, the ferry system has not changed since responsibility for the system was moved to the Ministry in 1992. Ferry locations are shown in Table I below.

Table I. Ferry Locations

Ferry	Location	Ministry Region
Clarkboro	South Saskatchewan River	Central Region
Riverhurst	Lake Diefenbaker	Southern Region
Paynton	North Saskatchewan River	Central Region
Weldon	South Saskatchewan River	Northern Region
St. Laurent	South Saskatchewan River	Central Region
Cecil	North Saskatchewan River	Northern Region
Hague	South Saskatchewan River	Central Region
Wingard	North Saskatchewan River	Central Region
Lemsford	South Saskatchewan River	Southern Region
Estuary	South Saskatchewan River	Southern Region
Fenton	South Saskatchewan River	Northern Region
Lancer	South Saskatchewan River	Southern Region
Wollaston Barge	Wollaston Lake	Northern Region

Ferry traffic data was collected by the ferry operators and forwarded to the traffic engineers, who analyzed and compiled this annual report. The vehicle classification forms used by ferry operators are shown in Appendix A.

During the winter months, the Ministry operated four seasonal/winter roads in 2011, for a total length of approximately 458 km. These roads provide access to isolated communities and seasonal industrial activities. The operational periods of these roads vary considerably from year to year because of weather conditions and economic fluctuations. Seasonal/winter road locations are shown in Table II below.

Table II. Seasonal/Winter Road Locations

Road	Location	Length (km)	Region
Cumberland House	Hwy 9 to Cumberland House	52	Northern Region
Riverhurst	Hwy 42 across Lake Diefenbaker	2	Southern Region
Wollaston Lake	Hwy 905 to Wollaston Lake	46	Northern Region
Athabasca	Points North Landing to Uranium City	358	Northern Region

The locations of the ferries and seasonal/winter roads, including ice crossings, are shown on the map on the following page.

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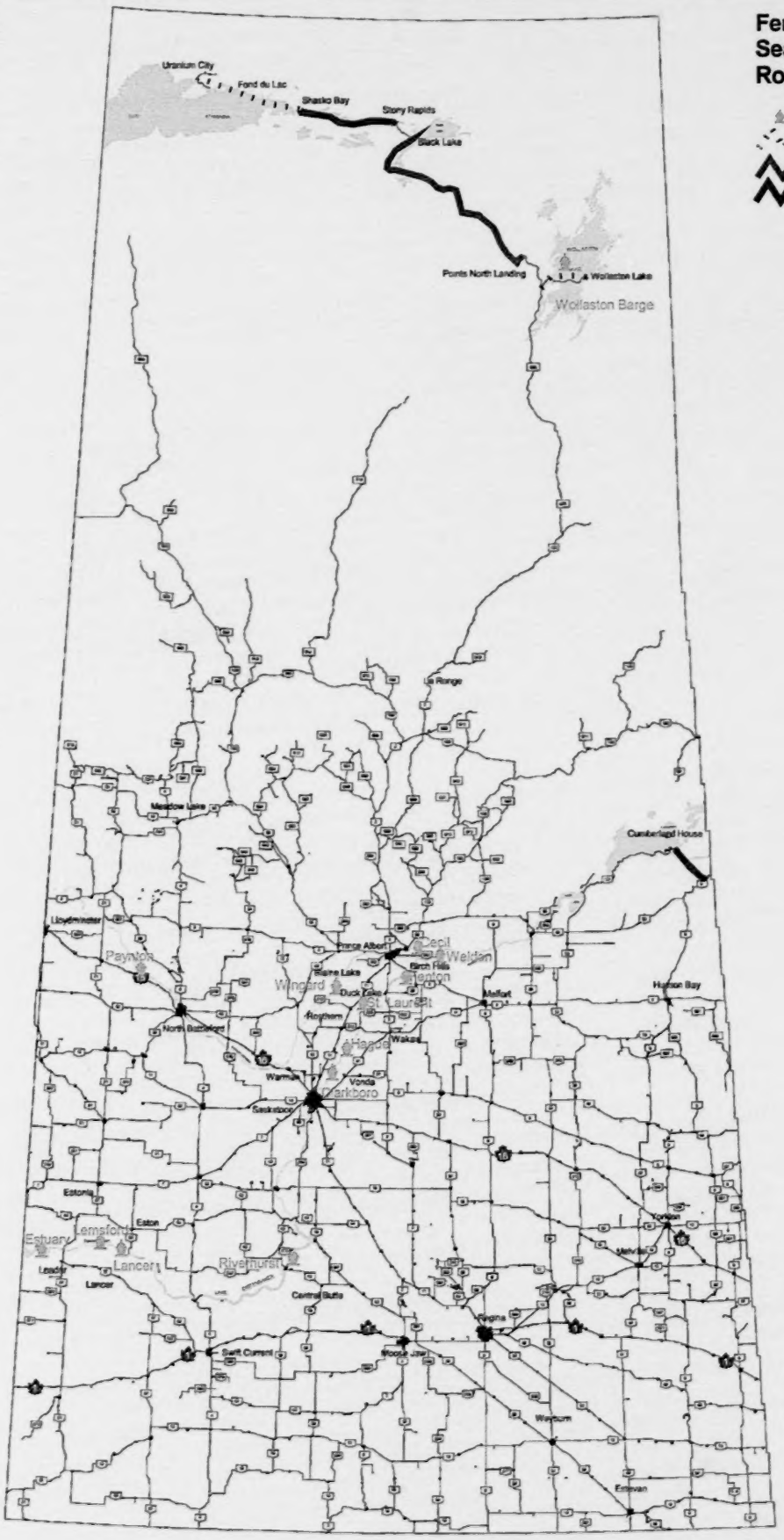


Ferry and Seasonal/Winter Road Locations

- Ferry Location
- Ice Crossing
- Seasonal Road
- Winter Road

3.0 Ferry Operating Seasons

All ferries, except the Riverhurst, Clarkboro and the Wollaston Barge ferries operated 17 hours per day between the hours of 7:00 am and midnight. Riverhurst and Wollaston Barge both operate 24 hours a day, while Clarkboro operated 19 hours per day, from 5:00 am to midnight. Ferries do not run at times because of mechanical failure, bad weather, or poor river conditions. Table III below summarizes the 2011 operational season including downtime at all ferries in the province. Details of the downtime periods and their causes are shown in Appendix B. The majority of sites had high downtimes, with most sites registering out of service time higher than 20% of possible operating time. The Weldon ferry reported the largest amount of downtime with 1734 hours representing 54.3% operating time, while St. Laurent and Hague both had 1020 out of service hours representing 29.7% and 28.6% of operating time respectively. No ferry operated without any downtime.

Table III. 2011 Ferry Operating Season Statistics

Ferry	Season				Out of Service	
	Opening	Closing	Length (days)	Operating Hours	Hours	Percent
Clarkboro	Apr 15	Nov 16	215	3154	931	22.8
Paynton	May 3	Oct 27	177	2573	436	14.5
Riverhurst	May 15	Jan 2	232	5407	149	2.7
Weldon	May 4	Nov 8	188	1457	1734	54.3
St. Laurent	Apr 27	Nov 15	202	2414	1020	29.7
Cecil	May 6	Nov 7	185	2873	272	8.6
Wingard	Apr 26	Nov 6	194	3116	170	5.2
Lemsford	Apr 21	Nov 7	200	3176	224	6.6
Hague	Apr 20	Nov 16	210	2550	1020	28.6
Fenton	May 3	Nov 8	189	2227	986	30.7
Estuary	Apr 26	Oct 19	176	2363	629	21.0
Lancer	May 6	Nov 6	184	2215	912.75	29.2
Wollaston Lake	Jun 22	Oct 31	131			

4.0 Volume, Passenger and Classification Summaries

Table IV below summarizes the 2011 monthly traffic at the ferry sites. Historic traffic volumes for these ferries are shown in Appendix C. The average number of vehicles using the ferry per day is represented by the Average Daily Traffic (ADT). Historic ADT is shown in Appendix D. ADT at the Riverhurst ferry, Clarkboro ferry and Wollaston Barge ferry can not be directly compared to other ferries. The Riverhurst and Wollaston Barge operated 24 hours a day and Clarkboro operated 19 hours a day, whereas the other cable-stayed ferries operated 17 hours a day. The Riverhurst ferry is also the only ferry that is located on a provincial highway.

Table IV. Monthly Ferry Traffic Volumes for the 2011 Season

Ferry	April	May	June	July	Aug	Sep	Oct	Nov	Dec	Jan	Total	ADT
Clarkboro	4,809	8,840	0	7,332	13,961	13,269	12,701	5,552	0	0	66,464	400
Paynton	0	4,327	2,693	3,817	5,574	3,207	3,270	0	0	0	22,888	151
Riverhurst	0	1,849	4,356	6,165	5,204	3,724	2,748	1,720	1,488	55	27,309	121
Weldon	0	1,724	0	0	546	3,552	3,439	625	0	0	9,886	115
St. Laurent	223	889	0	3,095	3,149	2,847	2,536	800	0	0	13,539	95
Cecil	0	1,403	1,097	1,449	2,046	4,628	3,227	621	0	0	14,471	86
Wingard	91	1,159	1,004	1,362	1,507	1,565	1,518	203	0	0	8,409	46
Lemsford	437	1,505	840	2,081	2,177	1,690	1,764	291	0	0	10,785	58
Hague	325	458	0	712	1,677	1,798	1,575	536	0	0	7,081	47
Fenton	0	560	0	813	1,286	1,400	1,397	310	0	0	5,766	44
Estuary	151	914	4	1,304	1,574	1,347	1,122	0	0	0	6,416	46
Lancer	0	550	0	508	1,303	1,282	1,110	160	0	0	4,913	38
Wollaston Barge	0	0	50	172	143	120	127	0	0	55	612	5
Totals	**6,036**	**24,178**	**10,044**	**28,810**	**40,147**	**40,429**	**36,534**	**10,818**	**1,488**	**110**	**198,539**	

Table V summarizes the 2011 monthly number of passengers for the cable-stayed ferry sites. Historic passenger volumes for these ferries are shown in Appendix E.

Table V. Monthly Ferry Passenger Volumes for the 2011 Season

Ferry	April	May	June	July	Aug	Sep	Oct	Nov	Dec	Jan	Total
Clarkboro	7,862	13,705	0	12,952	23,588	21,521	20,320	8,201	0	0	108,149
Paynton	0	6,440	4,111	6,162	9,011	4,720	4,885	0	0	0	35,329
Riverhurst	0	3,012	7,060	11,638	9,530	6,378	4,606	2,847	2,764	100	47,935
Weldon	0	3,291	0	0	857	6,215	6,171	1,063	0	0	17,597
St Laurent	418	1,981	0	7,263	6,722	5,697	5,158	1,541	0	0	28,780
Cecil	0	2,360	1,904	2,691	3,675	6,484	4,362	827	0	0	22,303
Wingard	229	2,623	2,206	3,276	4,058	3,337	3,113	688	0	0	19,540
Lemsford	682	1,995	1,287	3,587	3,757	2,571	2,744	417	0	0	17,040
Hague	583	747	0	1,276	2,850	2,705	2,333	754	0	0	11,248
Fenton	0	816	0	1,337	2,169	2,263	2,101	492	0	0	9,178
Estuary	254	1,494	0	2,488	2,914	2,322	1,678	0	0	0	11,150
Lancer	0	865	0	908	1,984	2,032	1,638	249	0	0	7,576
Totals	**10,028**	**39,329**	**16,568**	**53,478**	**71,125**	**66,245**	**59,109**	**17,079**	**2,764**	**100**	**335,825**

Passenger volumes have been recorded since 2000 at all locations except for Riverhurst and St. Laurent; these locations have recorded volumes since 1996 and 2003 respectively.

Ferry operators record the type of vehicles using the ferries. The breakdown of vehicle types is summarized in the charts below. The Wollaston Barge ferry is not included in these graphs because it uses a unique classification scheme.

Chart 4.0A 2011 Straight Trucks by Location

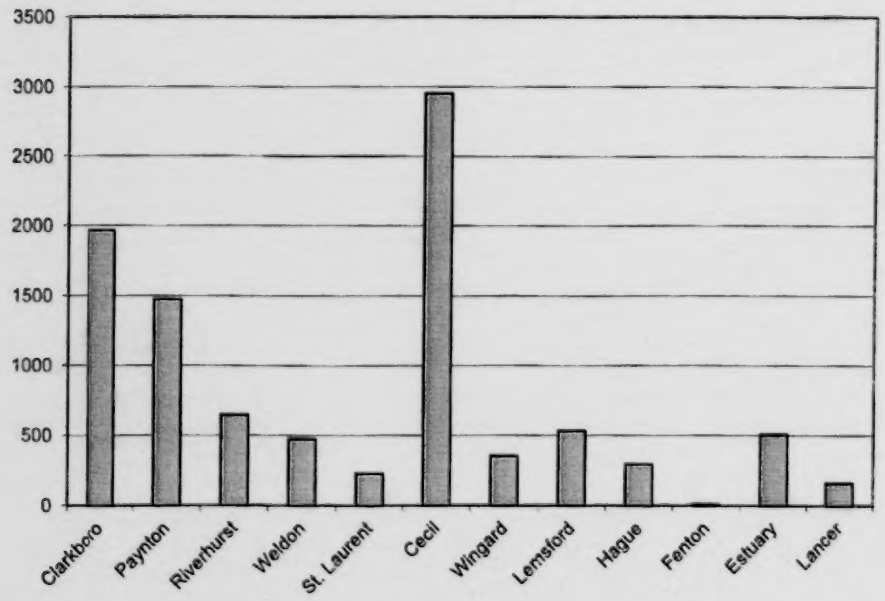


Chart 4.0B 2011 Single Trailer Trucks by Location

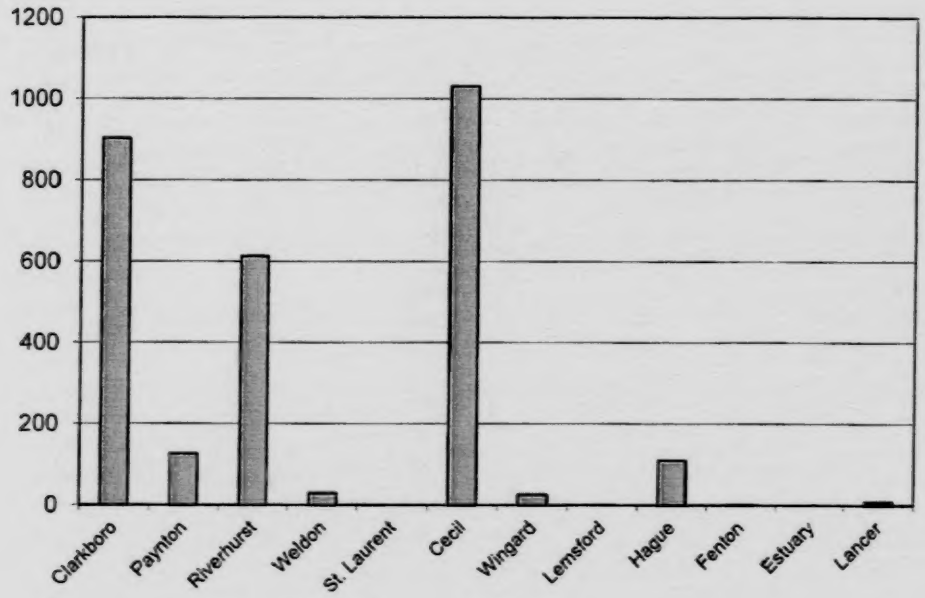
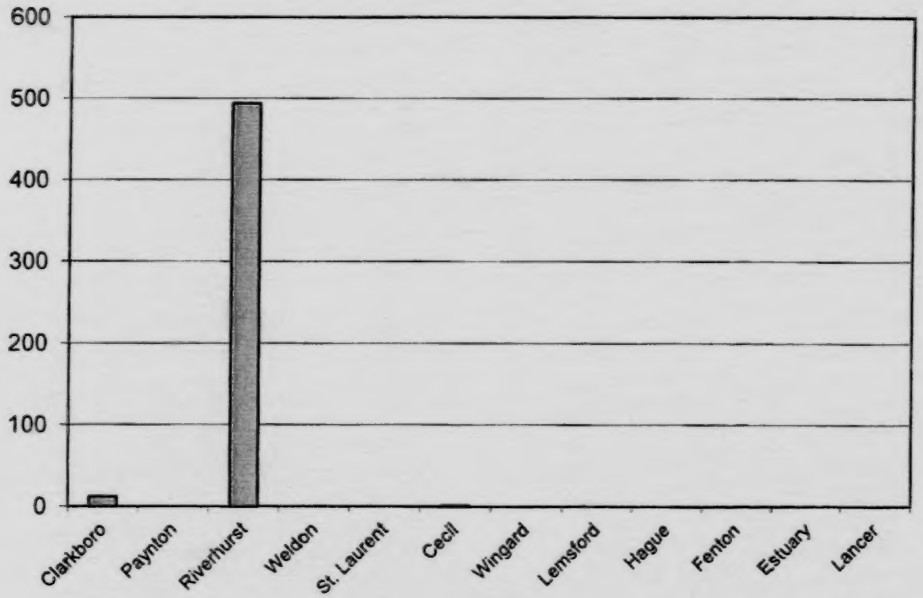
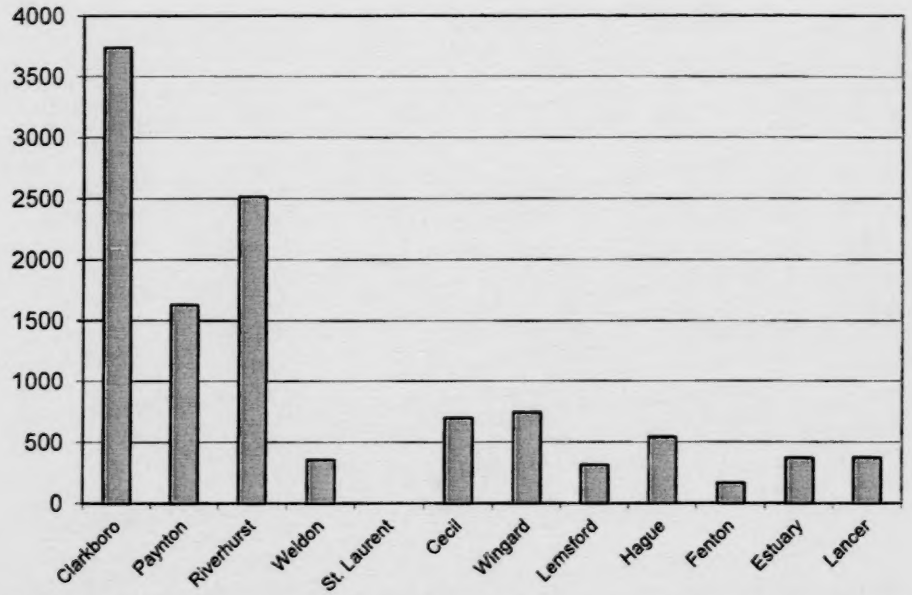


Chart 4.0C 2011 Multi Trailer Trucks by Location



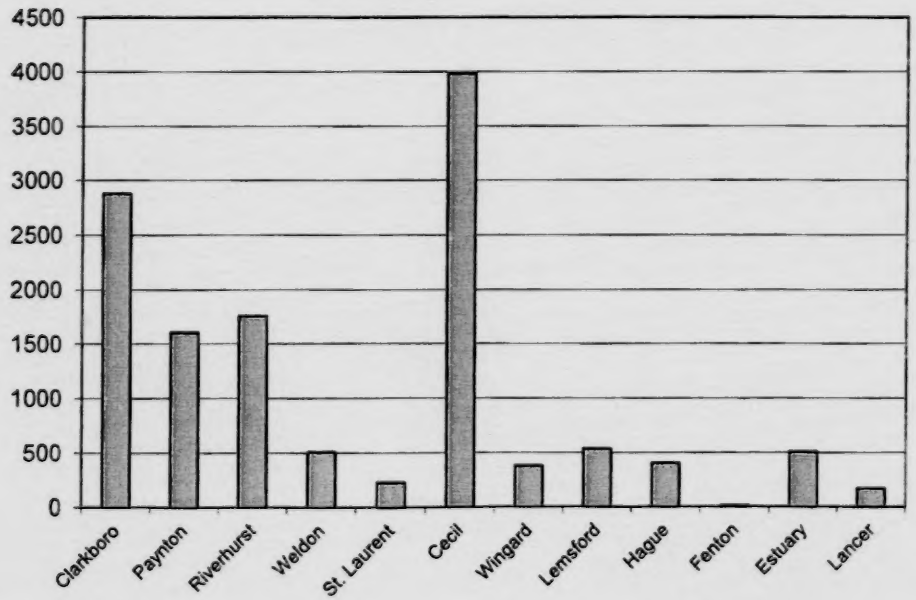
Most ferries are not long enough to accommodate multi trailer trucks.

Chart 4.0D 2011 Other Vehicles by Location



The vehicle category "other" normally refers to farm or construction equipment except near recreation areas, where there are often recreational vehicles or passenger vehicles pulling a boat or camping trailer.

Chart 4.0E 2011 Commercial Vehicles by Location

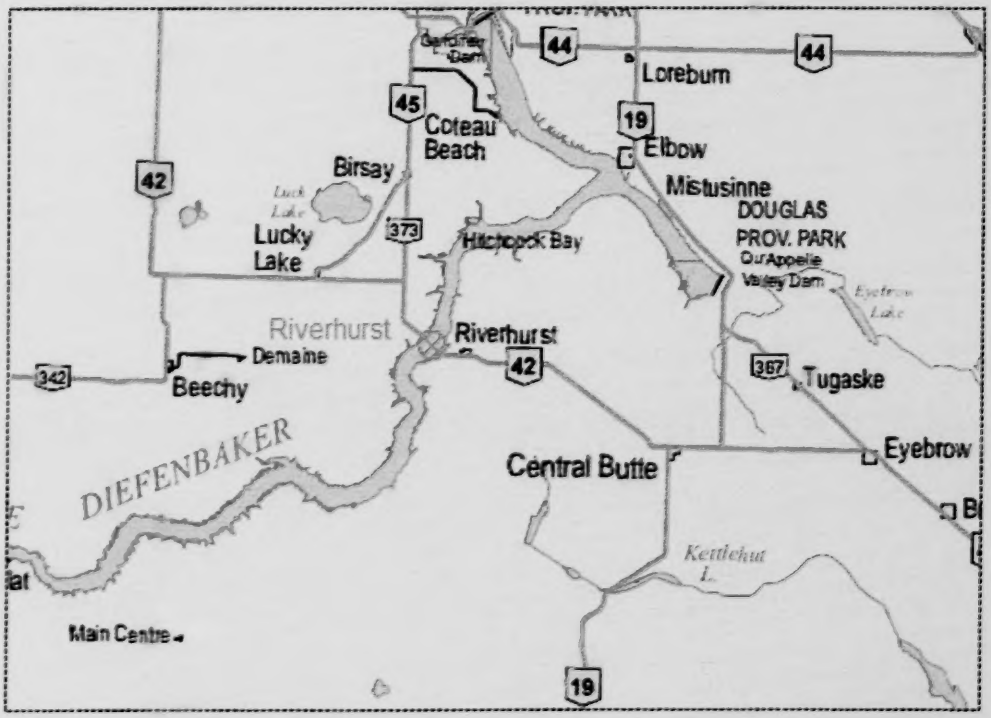


The commercial vehicles shown only contain straight, single and multi trailer trucks. The "other" vehicles are not included because they are typically not hauling freight or commodities.

5.0 Site by Site Analysis

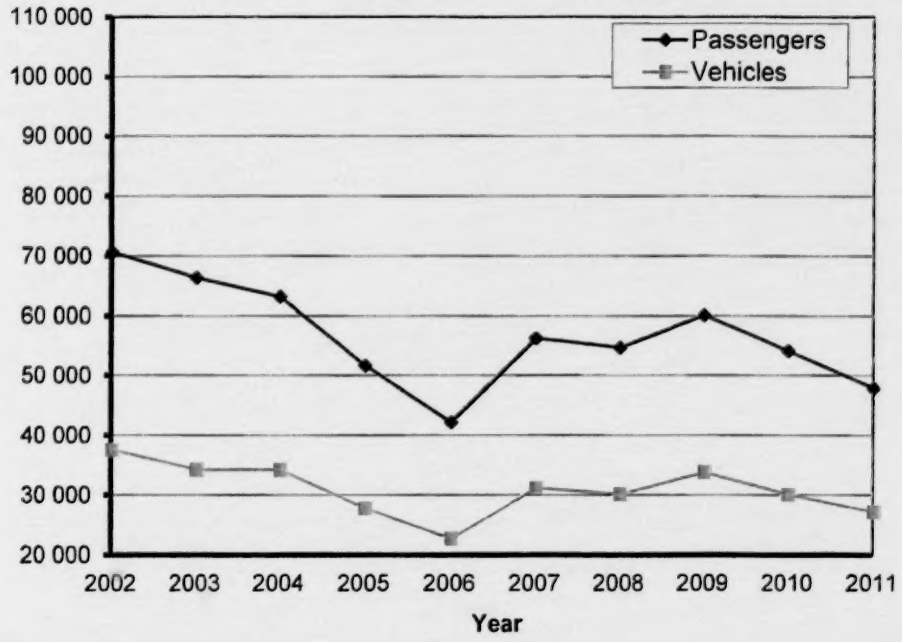
The ferry traffic data in this section is summarized by Ministry maintenance area. The area by area analysis results in six groupings: Moose Jaw, North Battleford, Prince Albert, Saskatoon, Swift Current and Wollaston.

5.1 Moose Jaw Area



The Moose Jaw area contains only the Riverhurst ferry, which is the largest and most sophisticated cable-stayed ferry in the province. This is the only ferry in the system located on a provincial highway. The Riverhurst ferry carries traffic on Highway 42 across the 2 km width of Lake Diefenbaker.

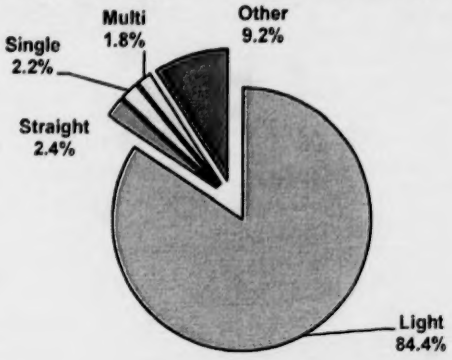
Chart 5.1A 10 Year History of Traffic on the Riverhurst Ferry



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Average
Vehicles	37 578	34 288	34 258	27 829	22 741	31 245	30 203	33 886	30 136	27 254	**30 942**
Passengers	70 700	66 422	63 193	51 692	42 213	56 320	54 742	60 157	54 189	47 935	**56 756**
ADT	176	169	153	127	144	139	141	162	150	121	**148**
Truck %	7 7	7.0	6.4	6.3	5.5	6 5	6.1	5.6	5.9	6.4	**6**

All traffic indicators on the Riverhurst ferry were below the ten-year average except for the truck percentage. Vehicle totals decreased by 9.6%, and the ADT decreased 19 per cent. Although the traffic totals decreased, historical records indicate that the season closure date was the latest since 1996.

Chart 5.1B Vehicle Types Using the Riverhurst Ferry

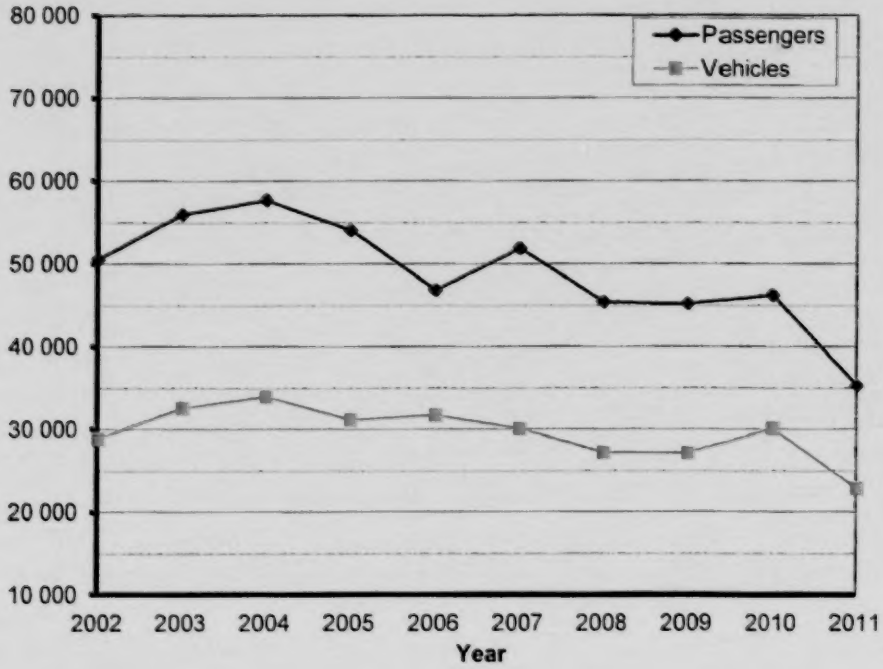


Riverhurst ferry had the highest percentage of "other" vehicles.

5.2 North Battleford Area

21
Meadow Lake
Meadow Lake Provincial Park
Meadow Lake Provincial Park
Meadow Lake
Meadow Lake
Meadow Lake

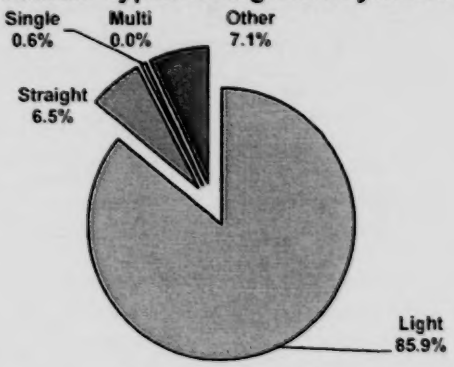
Chart 5.2A 10 Year History of Traffic on the Paynton Ferry



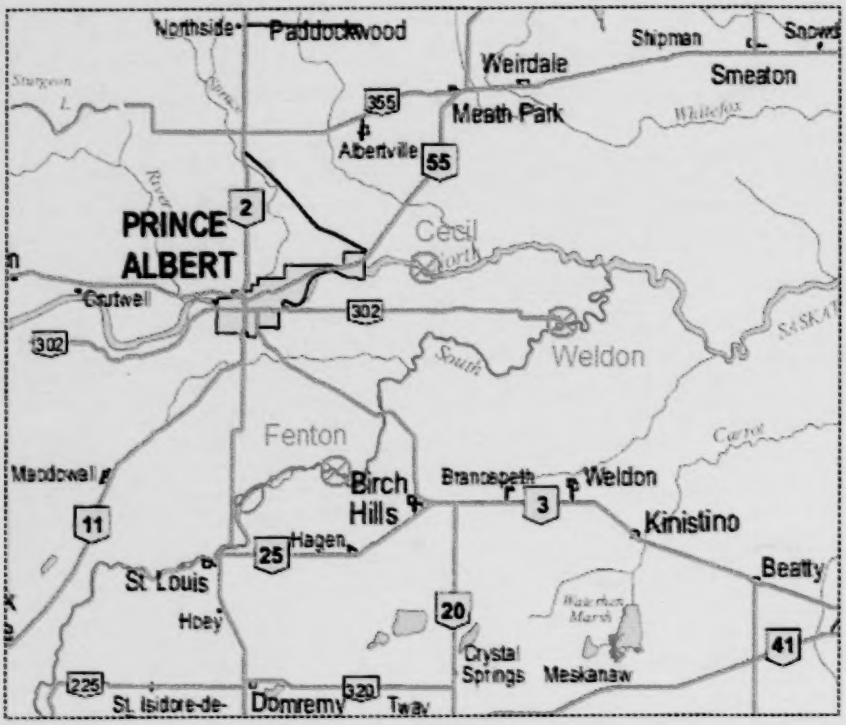
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Average
Vehicles	28 910	32 603	33 996	31 155	31 752	30 111	27 270	27 212	30 165	22 888	**29 606**
Passengers	50 577	56 014	57 743	54 100	46 889	51 909	45 457	45 234	46 284	35 329	**48 954**
ADT	167	175	180	161	169	162	152	140	155	151	**161**
Truck %	14.0	13.2	12 1	11.4	12.3	10.4	7.4	5 7	6.3	7.0	**10**

In 2011, traffic decreased significantly compared to the ten year average. Vehicle totals decreased 24% while ADT decreased 3% from 2010.

Chart 5.2B Vehicle Types Using the Paynton Ferry

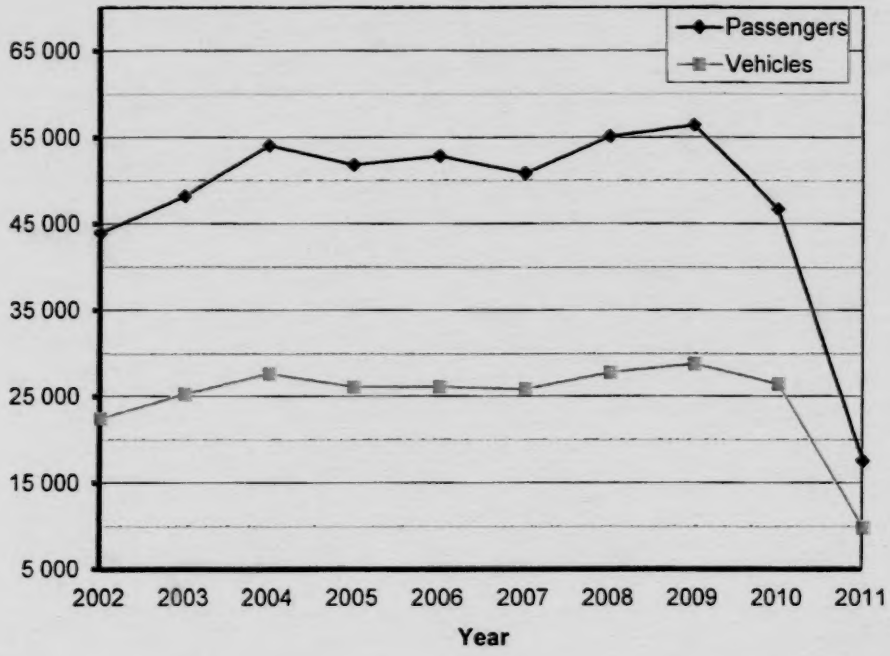


5.3 Prince Albert Area



The Prince Albert area includes the Weldon, Cecil and Fenton ferries.

Chart 5.3A 10 Year History of Traffic on the Weldon Ferry



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Average
Vehicles	22 461	25 308	27 709	26 124	26 137	25 887	27 838	28 850	26 491	9 886	**24 669**
Passengers	44 007	48 249	54 082	51 835	52 851	50 847	55 133	56 449	46 773	17 597	**47 782**
ADT	133	142	141	144	144	137	146	145	136	115	**138**
Truck %	3.8	5.9	3.8	3.4	3.1	3.5	3.4	3.0	2.7	5.1	**4**

In 2011, vehicle and passenger totals on the Weldon ferry decreased 63% compared to 2010, the most of any ferry in Saskatchewan. The main causes of the decrease were shutdowns due to high water conditions in May and June, and the closure of the approach road in July and August.

Chart 5.3B Vehicle Types Using the Weldon Ferry

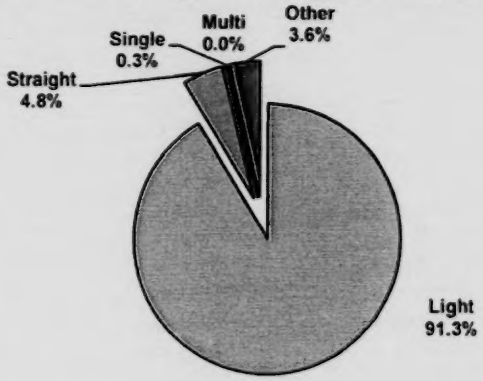
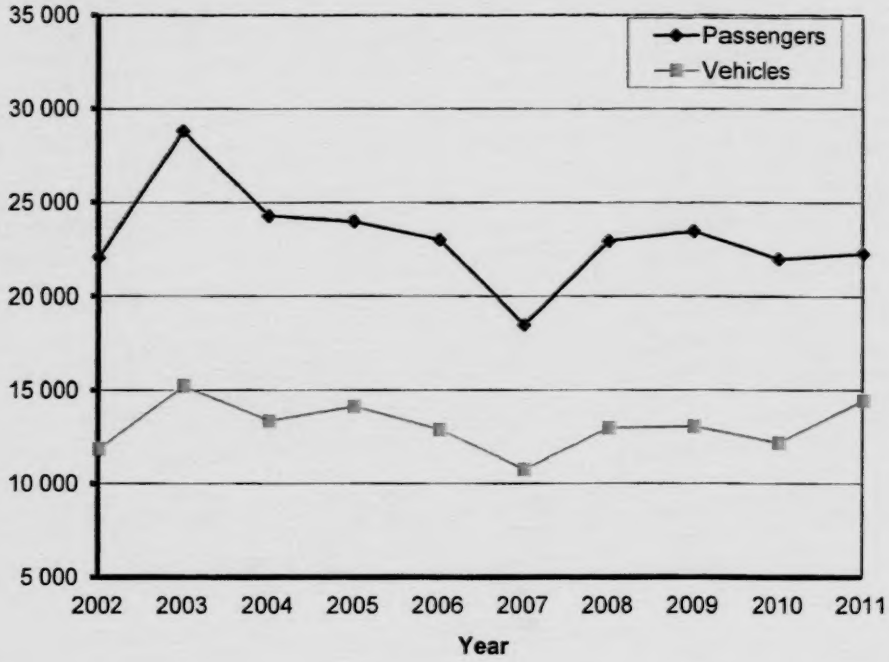


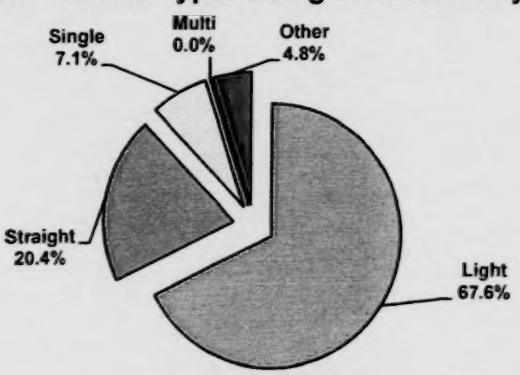
Chart 5.3C 10 Year History of Traffic on the Cecil Ferry



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Average
Vehicles	11 873	15 254	13 368	14 151	12 897	10 774	12 987	13 070	12 192	14 471	**13 104**
Passengers	22 112	28 819	24 310	24 015	23 052	18 505	22 986	23 515	22 015	22 303	**23 163**
ADT	71	86	69	74	69	59	68	68	62	86	**71**
Truck %	9.1	10 0	9.1	7.7	8.9	7.0	12.2	12.2	12 9	27.5	**12**

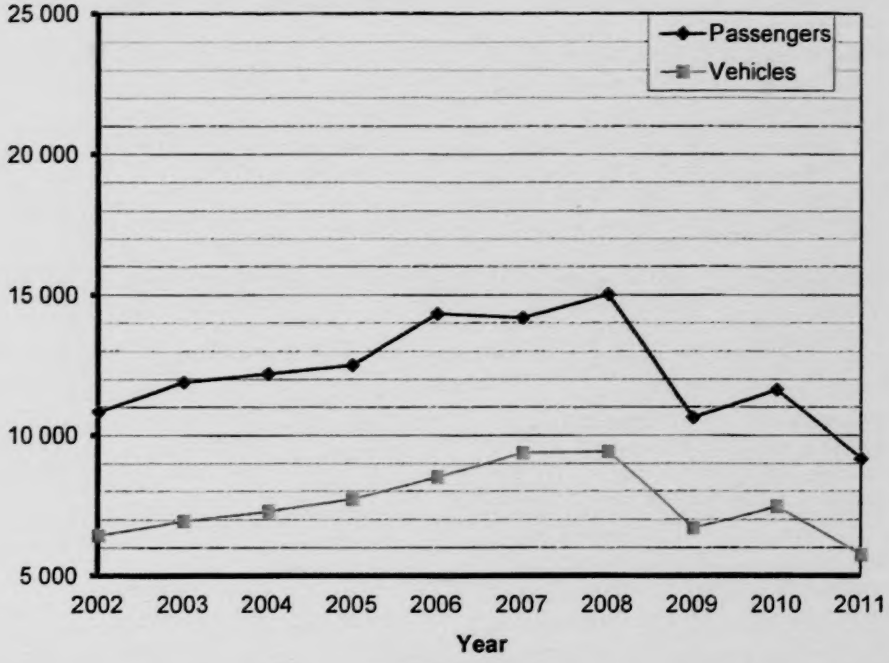
The Cecil ferry registered increases in all categories of traffic. The highest increases in truck traffic occurred between September and November.

Chart 5.3D Vehicle Types Using the Cecil Ferry



Cecil ferry carried the highest percentage of truck traffic of all cable-stayed ferries. Conversely, the ferry carried the lowest percentage of light vehicles.

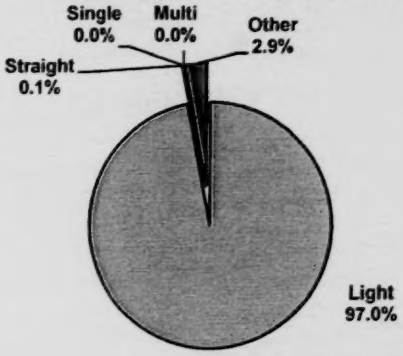
Chart 5.3E 10 Year History of Traffic on the Fenton Ferry



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Average
Vehicles	6 461	6 974	7 306	7 738	8 519	9 394	9 437	6 713	7 488	5 766	**7 580**
Passengers	10 835	11 909	12 209	12 517	14 341	14 195	15 038	10 631	11 636	9 178	**12 249**
ADT	40	41	38	43	47	50	51	47	49	44	**45**
Truck %	0.8	1.8	0.7	0.5	0.5	0.4	0.8	0.3	1.1	0.1	**1**

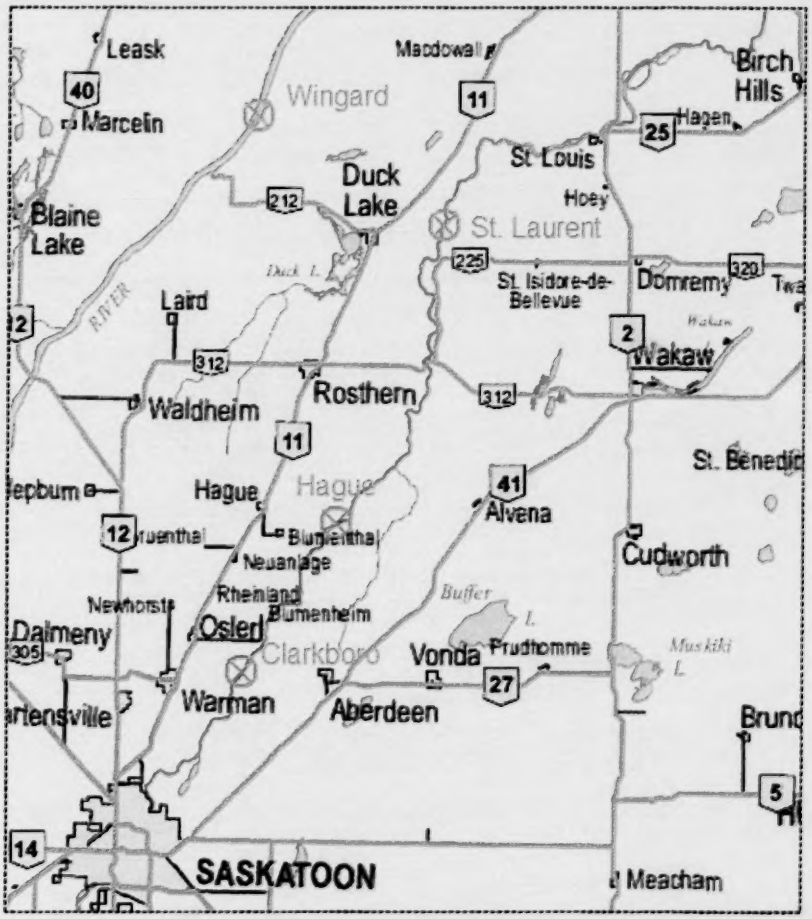
In 2011, traffic volumes decreased from 2010 levels. The decrease was likely due to the ferry's downtime amounting to 30.7% of operating hours.

Chart 5.3F Vehicle Types Using the Fenton Ferry



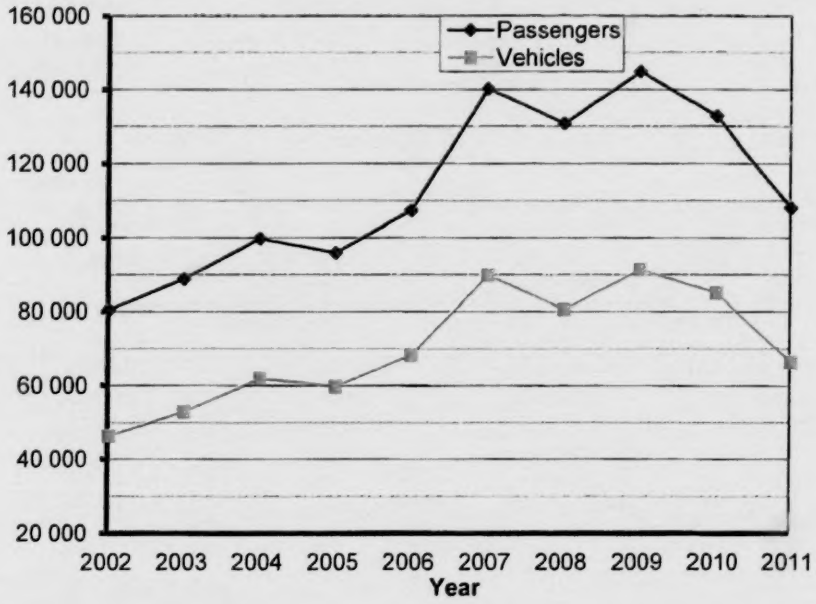
Traffic on the Fenton ferry was almost exclusively passenger vehicles.

5.4 Saskatoon Area



The Saskatoon area contains four ferries: Clarkboro, St. Laurent, Wingard and Hague.

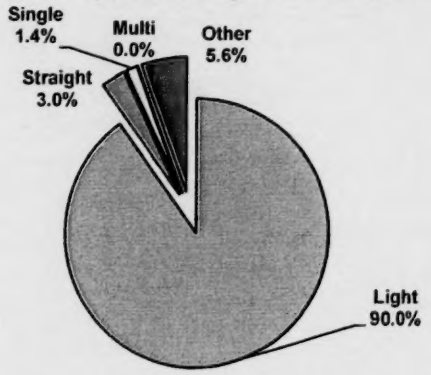
Chart 5.4A 10 Year History of Traffic on the Clarkboro Ferry



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Average
Vehicles	46 374	53 066	62 005	59 852	68 246	89 880	80 672	91 462	85 193	66 464	**70 321**
Passengers	80 526	88 909	99 892	95 977	107 442	140 307	130 852	145 034	132 911	108 149	**113 000**
ADT	234	276	278	298	327	405	373	404	389	400	**339**
Truck %	3.9	4.4	4.0	4.9	4.9	5.7	6 5	5.0	4 5	4.3	**5**

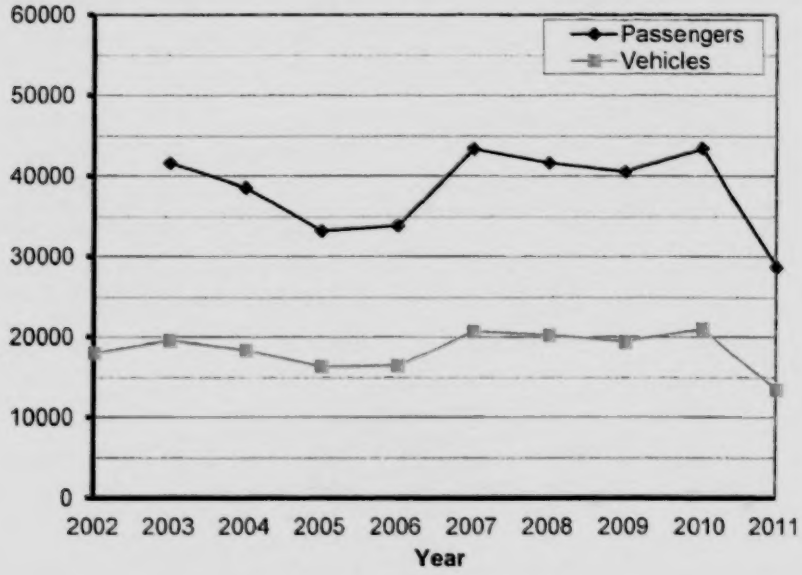
The vehicle total decreased but the ADT increased compared to 2010, with the ADT still well above the ten year average. The vehicle totals decreased because of an increase in downtime from none in 2010 to 23% of its operating hours in 2011.

Chart 5.4B Vehicle Types Using the Clarkboro Ferry



The Clarkboro ferry carried the most vehicles and had the highest ADT among Saskatchewan's ferries.

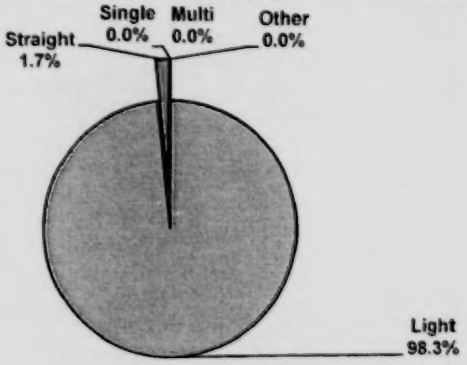
Chart 5.4C 10 Year History of Traffic on the St. Laurent Ferry



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Average
Vehicles	18 102	19 661	18 474	16 438	16 550	20 752	20 305	19 485	21 077	13 539	**18 438**
Passengers		41 656	38 612	33 252	33 897	43 409	41 667	40 583	43 484	28 780	**38 371**
ADT	99	107	88	84	86	97	98	94	102	95	**95**
Truck %	3.8	1 6	1.2	2.8	1.9	2.3	1.3	1.5	1.2	1 7	**2**

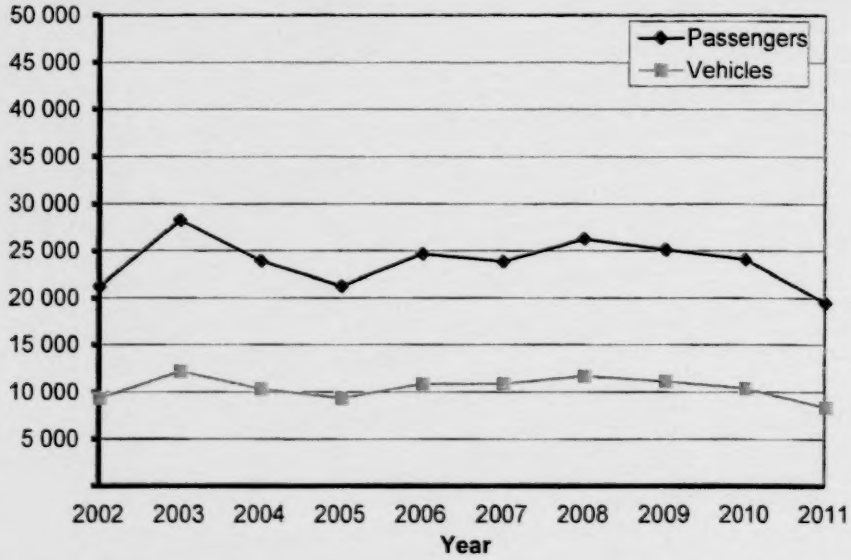
A record low in vehicle and passenger totals over the last 10 years was observed at the St. Laurent ferry while the ADT was equal to the 10 year average. This ferry was subject to high water conditions in May, June, and July.

Chart 5.4D Vehicle Types Using the St. Laurent Ferry



The St. Laurent ferry carried predominantly passenger vehicles and exclusively straight trucks in the truck category.

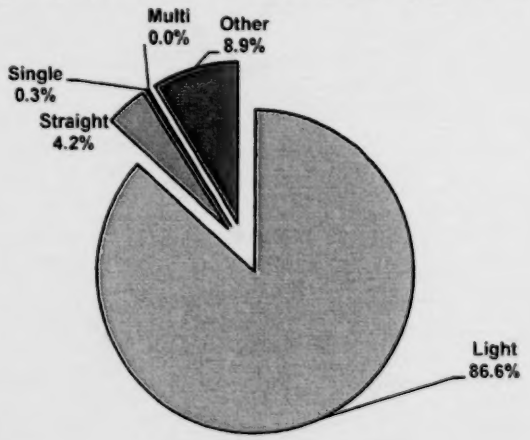
Chart 5.4E 10 Year History of Traffic on the Wingard Ferry



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Average
Vehicles	9 368	12 276	10 390	9 375	10 898	10 915	11 736	11 192	10 411	8 409	**10 497**
Passengers	21 271	28 299	23 954	21 305	24 725	23 886	26 292	25 174	24 128	19 540	**23 857**
ADT	54	66	54	49	57	57	61	59	50	46	**55**
Truck %	3.9	5 0	4.3	3.5	2.3	2.3	2.2	3.4	2.9	4.5	**3**

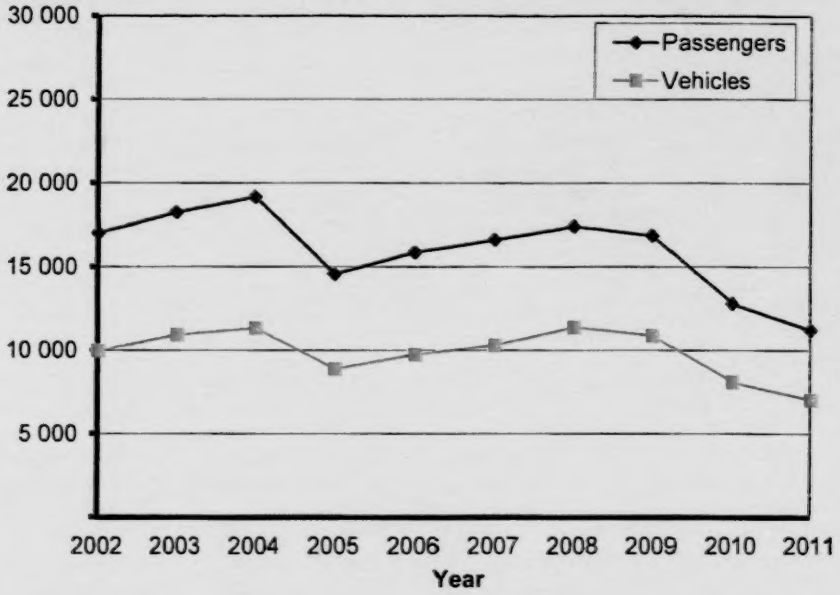
Compared to 2010, total vehicles on the Wingard ferry decreased 19%, and ADT decreased 8%.

Chart 5.4F Vehicle Types Using the Wingard Ferry



Wingard ferry had a high percentage of "other" vehicles.

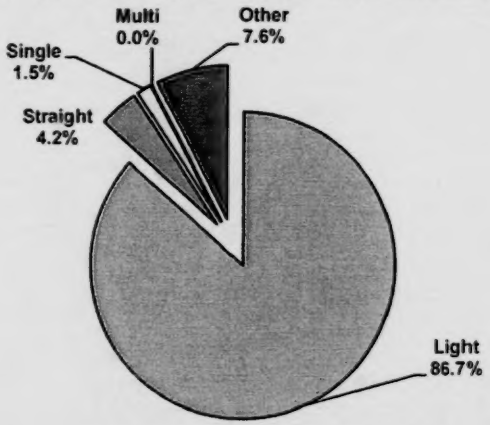
Chart 5.4G 10 Year History of Traffic on the Hague Ferry



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Average
Vehicles	10 006	10 963	11 368	8 906	9 772	10 330	11 405	10 897	8 137	7 081	**9 887**
Passengers	17 040	18 254	19 189	14 580	15 885	16 639	17 435	16 893	12 833	11 248	**16 000**
ADT	55	59	54	51	50	49	54	49	41	47	**51**
Truck %	4.8	6.4	5.1	6.4	5.3	5.4	5.7	4.3	5.4	5.7	**5**

Traffic on the Hague ferry decreased in terms of vehicles and passengers but ADT increased. Total vehicles and total passengers decreased between 12% and 13% compared to 2010. This ferry was shut down 29% of its operating hours mainly due to high water conditions.

Chart 5.4H Vehicle Types Using the Hague Ferry

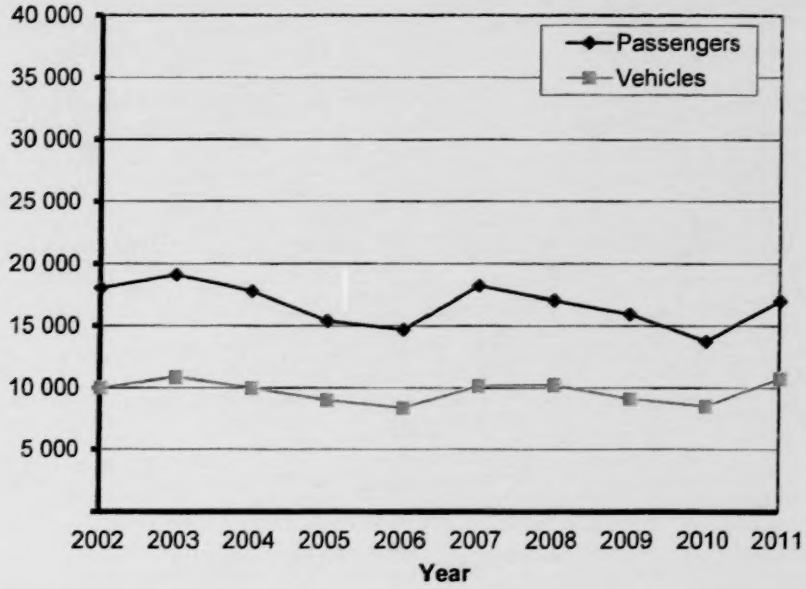


A higher decrease in light vehicles resulted in the higher truck percentage in 2011.

5.5 Swift Current Area

The Swift Current area has three ferries: Lemsford, Estuary and Lancer.

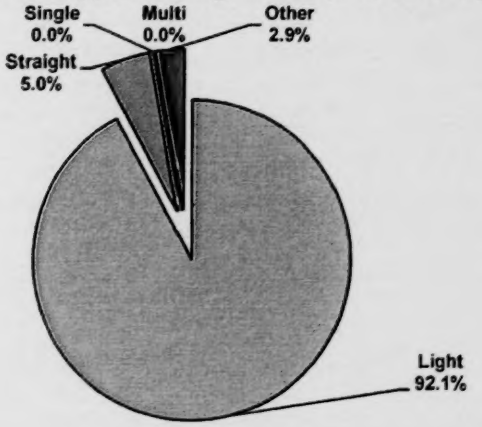
Chart 5.5A 10 Year History of Traffic on the Lemsford Ferry



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Average
Vehicles	10 031	10 885	10 040	9 042	8 418	10 197	10 258	9 140	8 544	10 785	**9 734**
Passengers	18 050	19 129	17 797	15 406	14 708	18 233	17 067	15 958	13 762	17 040	**16 715**
ADT	55	59	48	48	44	47	48	43	42	58	**49**
Truck %	5.2	5.8	5 1	3.4	3.3	2.9	5 0	3.7	3.7	5.0	**4**

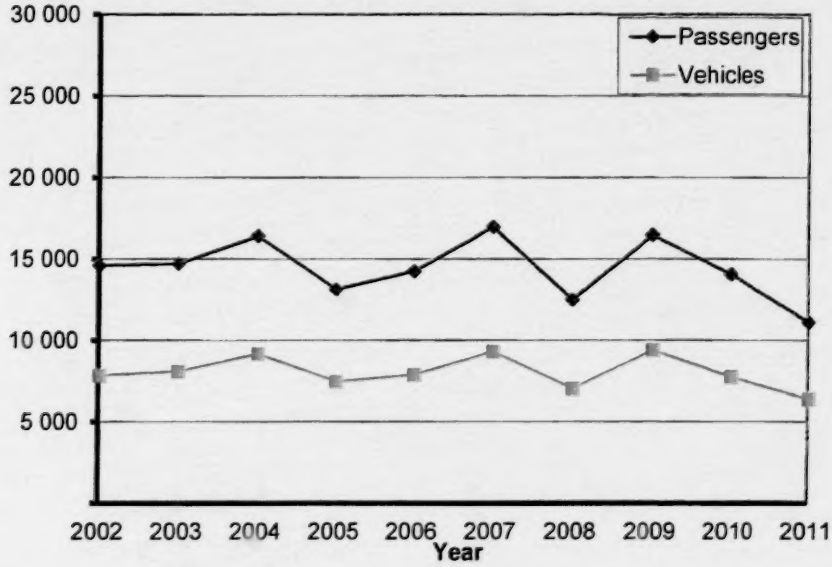
Total vehicles on the Lemsford ferry increased 26% from 2010 to 2011, ending the downward trend in traffic recorded since 2007. With a downtime of 7% of its operating hours, this ferry was least affected by the high water conditions that were common with the Swift Current area ferries.

Chart 5.5B Vehicle Types Using the Lemsford Ferry



The vast majority of traffic on the Lemsford ferry was passenger vehicles.

Chart 5.5C 10 Year History of Traffic on the Estuary Ferry



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Average
Vehicles	7 847	8 096	9 200	7 496	7 888	9 326	7 029	9 407	7 763	6 416	**8 047**
Passengers	14 631	14 728	16 435	13 156	14 266	16 968	12 492	16 479	14 081	11 150	**14 439**
ADT	48	49	46	44	43	45	43	45	40	46	**45**
Truck %	8.9	6.1	7.5	6.3	6.3	4.8	7.3	6.1	6.9	7.9	**7**

Traffic on the Estuary ferry decreased 17% in 2011. The 2011 ADT increased 15% from 2010. The variability of river conditions contributes to the year to year fluctuation of traffic volumes. In both 2010 and 2011, the majority of downtime was caused by high water conditions. These conditions were not present in 2009.

Chart 5.5D Vehicle Types Using the Estuary Ferry

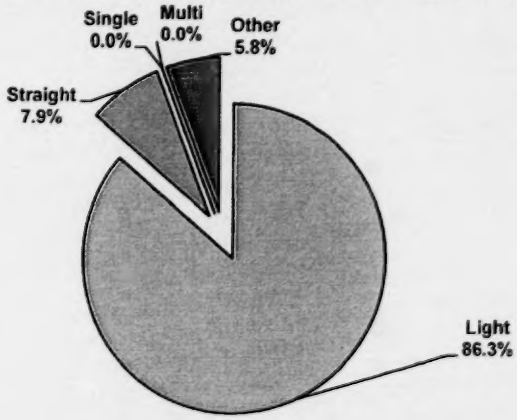
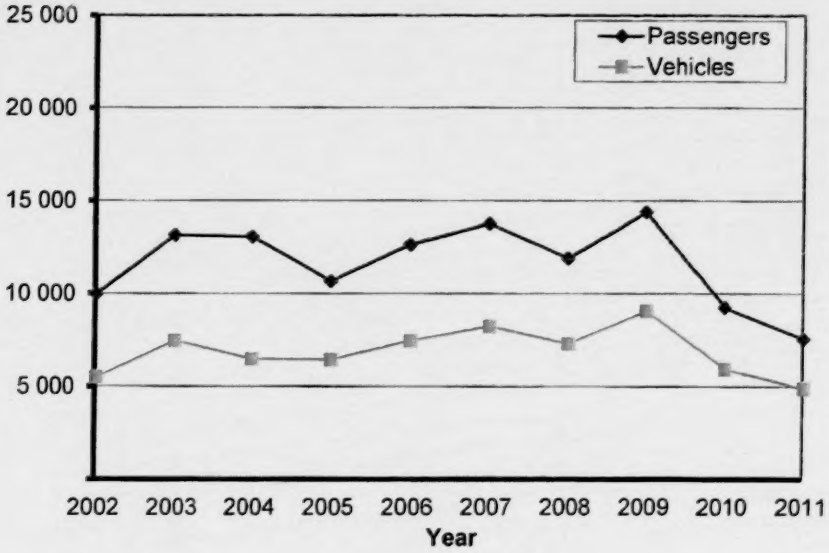


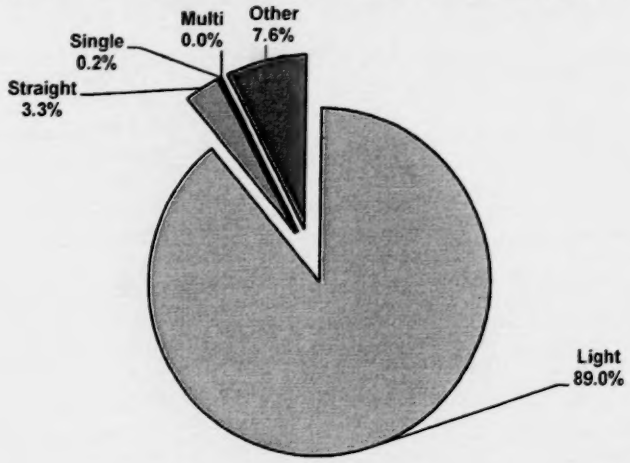
Chart 5.5E 10 Year History of Traffic on the Lancer Ferry



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Average
Vehicles	5 503	7 490	6 498	6 461	7 490	8 270	7 312	9 087	5 955	4 913	**6 898**
Passengers	9 992	13 174	13 090	10 694	12 662	13 790	11 918	14 406	9 282	7 576	**11 658**
ADT	32	40	31	37	39	40	37	43	33	38	**37**
Truck %	3.9	6.7	6 4	4.8	6.6	4.7	4.8	3.7	4.0	3.4	**5**

In 2011, the Lancer ferry recorded traffic volumes that were the lowest in the 10 year history. Vehicle totals decreased 18% while the ADT increased 13% from 2010.

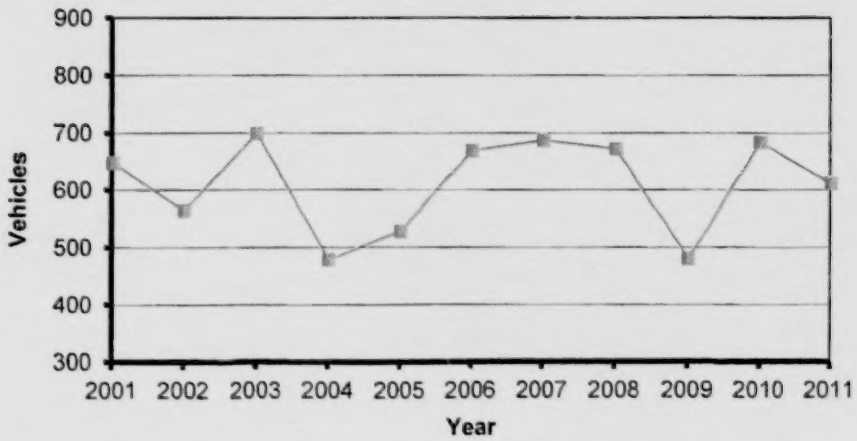
Chart 5.5F Vehicle Types Using the Lancer Ferry



5.6 Wollaston Barge Ferry

The Wollaston Barge ferry connects the community of Wollaston Lake to Highway 905. This vessel is unique because it is the only free-swimming ferry in the province and is the only ferry that charges a fee. The Hatchet Lake Denesuline First Nation operates the ferry under contract to the Ministry. The operational season at Wollaston Lake was shorter than other ferries in the province due to the northern location. This ferry carries significantly lower traffic volumes than the southern ferries because the length of the crossing allows a maximum of only three round trips each day.

Chart 5.6A Ten Year History of Traffic on the Wollaston Barge Ferry

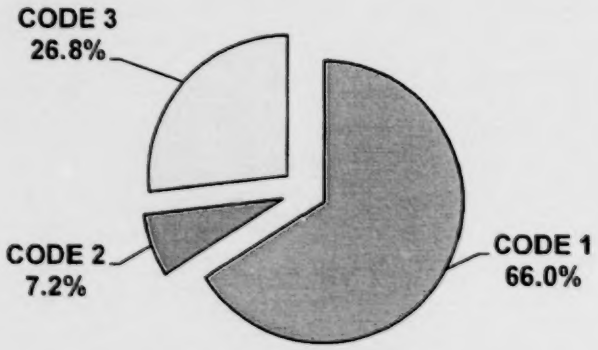


	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Vehicles	648	565	700	479	529	670	668	673	481	684	612
ADT	6	5	5	5	5	5	5	5	5	5	5
Truck %	41.5	45	42.6	38.8	34	34.5	32.7	46.1	28.3	38.2	34.0

In 2011 the Wollaston Barge recorded traffic at levels slightly less than that reported in 2010. Total vehicles decreased 11% from 2010 although the length of the operating season in 2011 was about the same as in 2010. The ADT stayed consistent with the ten year average.

The vehicle classification system used at Wollaston is different than that used by the rest of the ferry system. The three codes used at the Wollaston Barge ferry are based on the fee structure charged to the different vehicle types.

Chart 5.6B Vehicle Types Using the Wollaston Barge Ferry



Code 1 - Single Light Vehicle - car, truck (less then a 1 ton), motorcycle, etc.

Code 2 - Other - includes single vehicles with trailer, trucks over one ton, etc.

Code 3 - Full - Any semi trailer, construction equipment, etc.

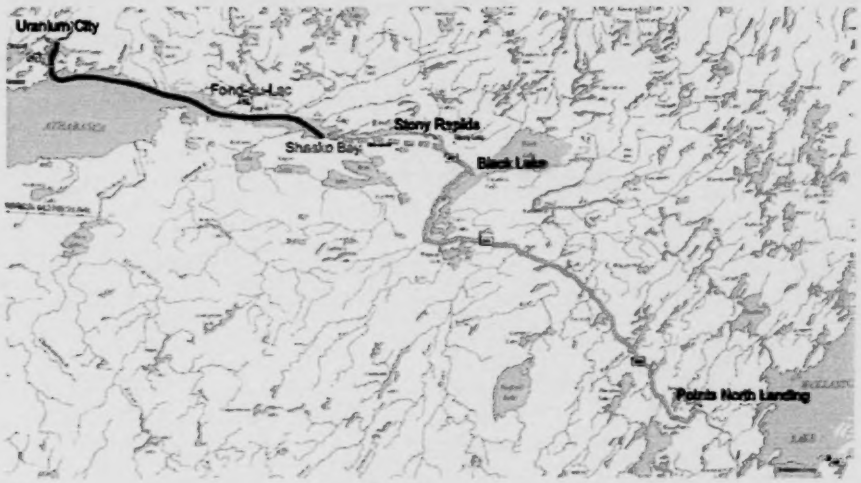
As in previous years, the majority of vehicles using the barge were single light vehicles. Other than by air, this ferry provides the only summer access to Wollaston Lake. There are few passenger trips because the community is small and the trip to the nearest community is quite long.

6.0 Seasonal/Winter Roads

All four seasonal/winter roads were operated by the Ministry in 2010. The four seasonal roads are the Cumberland House road (52 km), the Wollaston Lake road (46 km), the Athabasca road (358 km) and the Riverhurst ice road (2.4 km). Seasonal/winter roads are a vital link to the northern communities. They provide economical access to heavy and bulk commodities like fuel and building materials.

The length of the operating season for the seasonal/winter roads varies from year to year depending on winter conditions. Local traffic often uses the roads outside of the official season. The ice has to be sufficiently thick and the road completely constructed before the Ministry officially opens a seasonal/winter road to travel.

6.1 Athabasca Seasonal/Winter Road



The Athabasca seasonal/winter road was maintained by the Athabasca Basin Development Corporation under contract to the Ministry. Four separate road sections form the Athabasca seasonal/winter road. Over 185 km from Points North Landing to Black Lake is currently a bladed trail that requires extensive yearly repair work. The road from Stony Rapids to Shasko Bay was a winter-only road and the two sections from Shasko Bay to Uranium City are ice roads across Lake Athabasca. In recent years administrative information related to the two middle sections, Stony Rapids to Shasko Bay and Shasko Bay to Fond-du-Lac has been collected as one section from Stony Rapids to Fond-du-Lac. The combined lengths and operating costs for the section are listed in Table VII.

The combined length of the seasonal/winter road sections from Points North to Uranium City was 358 km. The 2010-11 cost of building and maintaining the four seasonal/winter road sections was $1,757,486.40 for a unit cost of $4,909 per km. Historical data for the sections are shown in the tables that follow.

Table VI. History of the Athabasca Seasonal/Winter Road (Points North to Black Lake)

Year	Opening	Closing	Length (days)	Length (km)	Cost
2002-03	N/A	N/A		180	$866,523
2003-04	N/A	Mar 31		183	$1,182,483
2004-05	N/A	Apr 04		183	$1,106,954
2005-06	N/A	N/A		183	$835,103
2006-07	Jun 06	Mar 31	298	183	$1,182,483
2007-08	Jun 06	Mar 31	299	183	$1,705,933
2008-09	N/A	Mar 31		183	$1,366,324
2009-10	N/A	N/A		183	$1,486,891
2010-11	N/A	N/A		183	$1,223,809

* There were no official opening or closing dates in 2003, 2006, 2008, 2010, or 2011

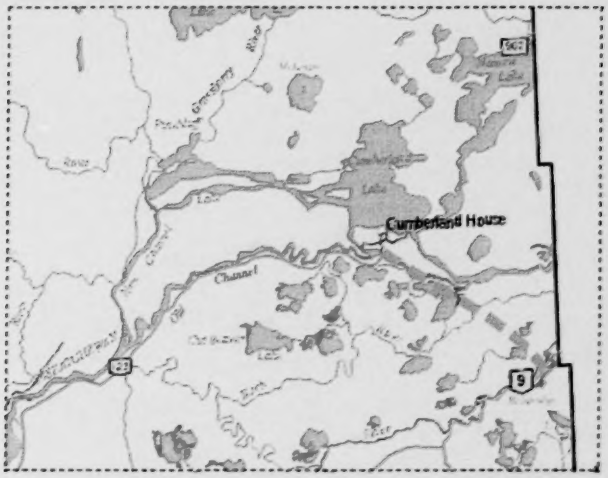
Table VII. History of the Athabasca Seasonal/Winter Road (Stony Rapids to Fond-du-Lac)

Year	Opening	Closing	Length (days)	Length (km)	Cost
2002-03	Feb 10	Mar 31	50	83.6	$215,046
2003-04	Feb 11	Mar 31	50	82	$172,255
2004-05	Feb 10	Apr 04	54	82	$194,918
2005-06	Mar 02	Mar 31	29	82	$176,100
2006-07	Feb 07	Mar 31	52	82	$172,255
2007-08	Feb 07	Mar 31	52	82	$331,984
2008-09	Jan 22	Mar 31	68	82	$307,362
2009-10	Jan 22	Mar 31	68	82	$218,938
2010-11	Jan 22	Mar 31	68	82	$224,768

Table VIII. History of the Athabasca Seasonal/Winter Road (Fond du Lac to Uranium City)

Year	Opening	Closing	Length (days)	Length (km)	Cost
2002-03	Feb 17	Mar 15	27	92	$99,208
2003-04	Mar 01	Mar 18	18	93	$60,000
2004-05	Mar 08	Apr 06	30	93	$104,292
2005-06	Mar 17	Mar 31	14	93	$94,932
2006-07	Mar 05	Mar 31	26	93	$60,000
2007-08	Mar 05	Mar 31	26	93	$160,999
2008-09	Feb 23	Mar 31	36	93	$292,990
2009-10	Feb 23	Mar 31	36	93	$257,850
2010-11	Mar 2	Mar 31	29	93	$308,910

6.2 Cumberland House Winter Road



The Cumberland House winter road was first operated in 1992-1993. The Cumberland House road was 53 km long and intersects with the north end of Highway 9 just west of the Manitoba boundary. The first 17 km were significantly improved in 2004-05. The roadway was widened and sight distances were improved. These first 17 kilometers were originally maintained by Weyerhaeuser.

Cumberland House winter road was opened to traffic on January 5, 2011, and closed on March 23, 2011. An estimated 30 vehicles per day used the road, for a total of 2070 vehicles during the operating season. The road was closed for nine days between February 10 and 18 due to a surge in water flow along Birch Creek. The 10 year history of the Cumberland House winter road is shown in the table below.

Table IX. 10 Year History of the Cumberland Winter Road

Year	Opening	Closing	Length (days)	Cost
2001-02	Jan 11	Mar 28	77	$13,113
2002-03	Jan 22	Mar 21	59	$18,952
2003-04	Jan 30	Apr 2	64	$22,424
2004-05	Dec 30	Mar 31	92	$46,575*
2005-06	Feb 9	Mar 24	44	$12,252
2006-07	Feb 3	Mar 20	47	$33,585
2007-08	Jan 24	Apr 2	70	$33,585
2008-09	Jan 2	N/A	N/A	$56,931
2009-10	Jan 3	Mar 29	83	$47,560
2010-11	Jan 5	Mar 23	69	N/A

* Widening and Sight Distance Improvements

6.3 *Riverhurst Winter Road*

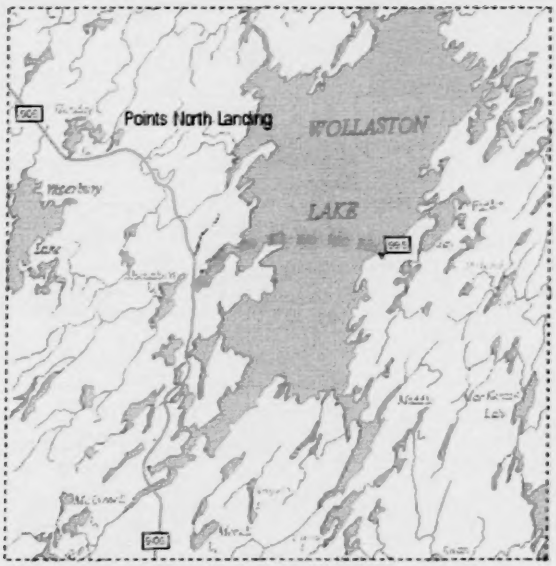
The Riverhurst ice road has operated intermittently for many years. In years when an official road is opened, the Ministry establishes and maintains it. Local residents may sometimes create a winter trail across the ice in the years that the Ministry opts not to open a winter road. There is no official operational record for those years.

The Riverhurst ice road was opened on February 11, 2011 and closed on March 16, 2011 for a total of 33 days of operation. The total cost to operate the road for the year was $12,934.00 or $392 per day of operation. The ten year history of the Riverhurst Ice Road is shown in the table below.

Table X. 10 Year History of the Riverhurst Ice Road

Year	Opening	Closing	Length(days)	Cost
2001-02	N/A	N/A		N/A
2002-03	Feb 21	Mar 15	23	$16,547
2003-04	Feb 4	Mar 10	36	$60,782
2004-05	Feb 4	Mar 6	31	$21,000
2005-06	N/A	N/A		N/A
2006-07	Jan 26	Mar 9	42	$15,402
2007-08	Feb 3	Mar 12	38	$13,854
2008-09	Feb 5	N/A		$27,953
2009-10	Feb 5	Mar 12	35	$16,262
2010-11	Feb 11	Mar 16	33	$12,934

6.4 Wollaston Lake Winter Road



The Wollaston Lake ice road was 46 km long and crosses the ice on Wollaston Lake to provide access to the residents of the community of Wollaston Lake. The road was established and maintained by the Hatchet Lake Denesuline First Nation under contract to the Ministry. The total operating cost was $198,500 for a unit cost of $4,315 per km or $2,963 per day. An estimated 200 vehicles per week used the roadway, for a total of 2,000 vehicles during the operating season. The operational history of the Wollaston Lake ice road is shown in the table below.

Table XI. Ten-Year History of the Wollaston Lake Ice Road

Year	Opening	Closing	Length(days)	Cost
2001-02	Feb 12	Apr 05	53	$99,158
2002-03	Feb 10	Apr 05	55	$124,813
2003-04	Feb 18	Mar 31	43	$100,079
2004-05	Feb 09	Apr 06	57	$97,000
2005-06	Feb 21	Mar 31	38	$124,246
2006-07	Feb 02	Mar 31	58	$100,079
2007-08	Jan 24	Mar 31	67	$172,500
2008-09	Jan 23	Mar 31	67	$172,500
2009-10	Jan 23	Mar 31	67	$198,500
2010-11	Jan 22	Mar 31	66	$270,950

7.0 Conclusions

Year to year traffic fluctuations at individual ferries are related to the operating season length, river conditions and local economic activity. In 2011, the ferry system carried 22% fewer vehicles than in 2010 with volumes falling noticeably below the ten year average. Except for the Riverhurst ferry, the dominant cause of ferry closure was high water levels. Overall, the 2011 ADT was 0.3% lower than the 2010 ADT. The number of passengers traveling the ferries was also 22% lower than in 2010.

7.1 Operating Season/Downtime

- The 2011 operating season length was 2.3% shorter than the 2010 season.
- Riverhurst ferry was the last ferry to begin operating and did not open until May 15.
- As in previous years, the Riverhurst ferry had the longest operating season, extending to as late as January 2012. The closure date was the latest since 1996.
- The Weldon, St. Laurent and Fenton ferries were closed for the longest periods of time due to high water levels. In addition, the Weldon ferry did not operate for approximately 1½ months because of a structural failure on the approach road.
- All ferries had shutdown periods which ranged from as low as 2.7% of operating hours at Riverhurst, to highs of 54.3% at Weldon, 30.7% at Fenton, and 29.7% at St. Laurent.
- The operating periods for all seasonal/winter roads were very similar to those in 2010.

7.2 Traffic Volumes

- Ferries with the largest decreases in traffic volumes compared to 2010 were Weldon at 63%, St. Laurent at 36% and Paynton at 25%.
- Ferries with the largest increases in traffic volumes compared to 2010 were Lemsford at 27% and Cecil at 19%.
- Wollaston barge recorded an 11% decrease in traffic volume compared to 2010.
- Three ferries had their ADT drop by more than 10% compared with the 2010 ADT: Riverhurst by 20%, Weldon by 15% and Fenton by 11%.
- The largest increases in ADT from 2010 were reported at the Cecil ferry (37.4%), Lemsford ferry (37.4%) and Estuary ferry (15.3%).

7.3 Vehicle Classifications

- St. Laurent, Fenton and Lemsford ferries carried the largest percentage of light vehicles.
- The Riverhurst, Wingard, Hague and Lancer ferries had the highest percentages of "other" vehicles, which are normally interpreted as farming and recreational vehicles.
- The Cecil, Estuary and Paynton ferries had a large percentage of straight trucks, which are used primarily for short distance hauling.
- Cecil and Riverhurst ferries had the highest percentage of single trailer semi trucks.
- Cecil, Weldon, Wingard, St. Laurent, Lemsford, Estuary, Paynton and Hague all saw significant increases in truck traffic percentage.
- The Wollaston Barge ferry had the highest percentage of trucks.

Appendix A

Saskatchewan Ministry of Highways and Infrastructure

Ferry Traffic Data Summary

Ferry Crossing _____ Month of _____, 20 _____

Day	LGT	Straight Trucks	Semi Trailer	Multi Trailer	Other	Passengers	Crossings	Comments/Downtime
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
Totals								

Statement Certified Correct

_____

Ferry operator

KEY

LGT	-Cars & Pickups
Straight Trucks	-Non-articulated
Semi Trailer	-Single Trailer
Multi-Trailer	-2 or more Trailers

Notes:

1) "Other" includes farm or construction equipment etc.
2) Give details of "Other" in "Comments/Downtime" ie: dangerous goods, equipment type, product hauled.
3) In "Comments/Downtime" also report cause and start/end hours of any downtime periods.

Riverhurst Ferry Traffic Data

Sheet No. _____

Date_____ Shift_____ Operators 1. _____ 2. _____

Departure Time	LGT	Straight Trucks	Semi Trailer	Multi Trailer	Other	Pass-engers	Comments	Engine R P M.	Weather Wind(Kmh)	Sky	Surface	Temp
Totals												

Statement Certified Correct

_____
Ferry operator

Regular crew Name (please print)	Casual crew called Name	Accept	Refuse

		Main Engine	Genset 1	Genset 2
Hourmeter	Start			
	Finish			
Engine oil pressure				
Engine Coolant temp				
Torque Converter Temp				
Torque Converter Pres.				
Engine oil added				
Engine Coolant added				
Torque Conv oil added				
Transmission oil added				
Final drive oil added				
Hydraulic oil	East Ramp_____		West Ramp_____	

Remarks (Weather, Servicing, etc)

Appendix B

2011 Ferry Downtime

Ferry	Date	Hours	2011 Total Downtime	% of Time Out of Service	Reason
Riverhurst	July 8 to 12	104			Repairs
	August 28	4			Repairs
	August 30 to 31	4			Repairs
	September 10 to 11	19			Cable break
	October 13	3			Repairs
	October 21	3			Repairs
	November 21	12	149	2.7%	Cable change
Paynton	May 16	8			No reason given
	June 1 to 2	17.5			No reason given
	June 20 to 30	172.5			High water
	July 1 to 5	85			High water
	September 19 to 27	153	436	14.5%	Low water
St. Laurent	May 13 to 31	323			High water
	June 1 to 30	510			High water
	July 1 to 11	187	1020	29.7%	High water
Lemsford	May 30 to 31	34			High water
	June 1 to 5	69			High water
	June 11 to 18	121	224	6.6%	High water
Weldon	May 17 to 31	255			High water
	June 1 to 30	510			High water
	July 1 to 31	527			High water, road closed
	August 1 to 26	442	1734	54.3%	Approach road closed
Hague	May 13 to 31	323			High water
	June 1 to 30	510			High water
	July 1 to 11	187	1020	28.6%	High water
Estuary	May 27 to 31	85			High water
	June 1 to 30	510			High water
	July 1 to 2	34	629	21.0%	High water
Lancer	May 15	7.75			High winds
	May 25	6.25			Breakdown
	May 27 to 31	85			High water
	June 1 to 30	510			High water
	July 1 to 13	212.5			High water
	July 18 to 23	91.25	912.75	21.0%	Repairs
Fenton	May 4	17			No reason given
	May 17 to 31	255			High water
	June 1 to 30	510			High water
	July 1 to 10	170			High water
	August 8 and 14	34	986	30.7%	No reason given
Clarkboro	May 23 to 31	171			High water
	June 1 to 30	570			High water
	July 1 to 10	190	931	22.8%	High water
Wingard	June 24 to 30	119			High water
	July 1 to 3	51	170	5 2%	High water
Cecil	June 24 to 30	204			High water
	July 1 to 3	51			High water
	November 6	17	272	8.6%	No reason given

Appendix C

Historic Traffic Volumes

Ferry	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Average
Clarkboro	34 674	42 448	31 975	39 338	42 991	40 839	52 185	53 780	58 303	46 374	53 066	62 005	59 852	68 246	89 880	80 672	91 462	85 193	66 464	**57 881**
Paynton	42 058	30 686	30 453	30 172	34 365	32 453	28 808	33 749	31 348	28 910	32 603	33 996	31 155	31 752	30 111	27 270	27 212	30 165	22 888	**31 061**
Riverhurst	40 242	40 076	41 291	36 449	50 766	45 763	42 424	50 010	47 867	37 578	34 288	34 258	27 829	22 741	31 245	30 203	33 886	30 136	27 254	**37 069**
Weldon	24 754	30 465	26 268	29 657	29 455	28 003	30 382	27 770	25 875	22 461	25 308	27 709	26 124	26 137	25 887	27 838	28 850	26 491	9 886	**26 280**
St.Laurent	18 556	20 421	30 030	19 875	16 987	17 133	29 143	29 980	23 796	18 102	19 661	18 474	16 438	16 550	20 752	20 305	19 485	21 077	13 539	**20 542**
Cecil	13 210	12 752	12 678	11 603	11 303	11 234	11 016	11 484	13 073	11 873	15 254	13 368	14 151	12 897	10 774	12 987	13 070	12 192	14 471	**12 599**
Wingard	10 115	10 719	10 687	9 878	9 420	12 467	12 227	12 791	13 158	9 368	12 276	10 390	9 375	10 898	10 915	11 736	11 192	10 411	8 409	**10 865**
Lemsford	13 381	13 471	12 170	12 805	14 393	11 849	11 730	11 623	15 659	10 031	10 885	10 040	9 042	8 418	10 197	10 258	9 140	8 544	10 785	**11 285**
Hague	20 883	14 442	12 425	11 961	14 577	13 122	12 845	12 156	12 652	10 006	10 963	11 368	8 906	9 772	10 330	11 405	10 897	8 137	7 081	**11 786**
Fenton	6 517	9 730	8 582	8 366	8 716	8 324	9 640	8 533	8 563	6 461	6 974	7 306	7 738	8 519	9 394	9 437	6 713	7 488	5 766	**8 040**
Estuary	8 153	7 278	6 844	8 463	9 058	9 217	9 793	10 437	9 541	7 847	8 096	9 200	7 496	7 888	9 326	7 029	9 407	7 763	6 416	**8 382**
Lancer	7 047	7 649	5 673	6 789	6 685	6 967	7 604	7 421	3 324	5 503	7 490	6 498	6 461	7 490	8 270	7 312	9 087	5 955	4 913	**6 744**
Wollaston Barge							559	625	648	565	700	479	529	670	688	673	481	684	612	**609**
Cumberland	24 000	23 041	28 198	19 082	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	**23 580**
Total	**263 590**	**263 178**	**257 274**	**244 438**	**248 716**	**237 371**	**258 356**	**270 359**	**263 807**	**215 079**	**237 564**	**245 091**	**225 096**	**231 978**	**267 769**	**257 125**	**270 882**	**254 236**	**198 484**	**247 915**

Appendix D

Historic Average Daily Traffic (ADT)

Ferry	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Average
Clarkboro	218	206	234	255	255	234	276	278	298	327	405	373	404	389	400	**304**
Paynton	210	159	141	170	158	167	175	180	161	169	162	152	140	155	151	**163**
Riverhurst	213	190	174	216	204	176	169	153	127	131	139	141	162	150	121	**165**
Weldon	153	142	159	141	135	133	142	141	144	144	137	146	145	136	115	**141**
St.Laurent	91	85	130	147	111	99	107	88	84	86	97	98	94	102	95	**101**
Cecil	59	57	58	57	67	71	86	69	74	69	59	68	68	62	86	**67**
Wingard	50	63	63	63	66	54	66	54	49	57	57	61	59	50	46	**57**
Lemsford	68	58	52	58	69	55	59	48	48	44	47	48	43	42	58	**53**
Hague	75	68	58	61	59	55	59	54	51	50	49	54	49	41	47	**55**
Fenton	45	43	51	45	45	40	41	38	43	47	50	51	47	49	44	**45**
Estuary	44	47	44	52	48	48	49	46	44	43	45	43	45	40	46	**46**
Lancer	33	33	34	37	34	32	40	31	37	39	40	37	43	34	38	**36**
Wollaston Barge			5	5	6	5	5	5	5	5	5	5	5	5	5	**5**
Total	**1 261**	**1 152**	**1 204**	**1 307**	**1 255**	**1 171**	**1 276**	**1 184**	**1 165**	**1 209**	**1 291**	**1 278**	**1 304**	**1 256**	**1 253**	**1 238**

Appendix E

Historic Passenger Volumes

Ferry	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Average
Clarkboro	69 292	98 654	80 526	88 909	99 892	95 977	107 442	140 307	130 852	145 034	132 911	108 149	**108 162**
Paynton	60 119	55 475	50 577	56 014	57 743	54 100	46 889	51 909	45 457	45 234	46 284	35 329	**50 428**
Riverhurst	100 979	90 056	70 700	66 422	63 193	51 692	42 213	56 320	54 742	60 157	54 189	47 935	**63 217**
Weldon	N/A	49 555	44 007	48 249	54 082	51 835	52 851	50 847	55 133	56 449	46 773	17 597	**47 943**
St.Laurent	N/A	N/A	N/A	41 656	38 612	33 252	33 897	43 409	41 667	40 583	43 484	28 780	**38 371**
Cecil	N/A	24 098	22 112	28 819	24 310	24 015	23 052	18 505	22 986	23 515	22 015	22 303	**23 248**
Wingard	24 417	33 260	21 271	28 299	23 954	21 305	24 725	23 886	26 292	25 174	24 128	19 540	**24 688**
Lemsford	21 548	28 651	18 050	19 129	17 797	15 406	14 708	18 233	17 067	15 958	13 762	17 040	**18 112**
Hague	13 705	22 221	17 040	18 254	19 189	14 580	15 885	16 639	17 435	16 893	12 833	11 248	**16 327**
Fenton	N/A	13 236	10 835	11 909	12 209	12 517	14 341	14 195	15 038	10 631	11 636	9 178	**12 339**
Estuary	19 152	18 045	14 631	14 728	16 435	13 156	14 266	16 968	12 492	16 479	14 081	11 150	**15 132**
Lancer	13 668	6 113	9 992	13 174	13 090	10 694	12 662	13 790	11 918	14 406	9 282	7 576	**11 364**
Total	**322 880**	**439 364**	**359 741**	**435 562**	**440 506**	**398 529**	**402 931**	**465 008**	**451 079**	**470 513**	**431 378**	**335 825**	**412 776**